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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/842,128	Applicant(s) TEO ET AL.	
	Examiner Sharad Rampuria	Art Unit 2683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 June 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42 and 46* is/are pending in the application.

4a) Of the above claim(s) *43-45 and 47* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-42 and 46* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Election/Restrictions

Applicant's election without traverse of Group I in the reply filed on 05/04/04 is acknowledged.

DETAILED ACTION

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Searle, Keskitalo et al. (US 5966670), Chen et al.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclose or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-23, 25-29, 32-39, 41-42 & 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keskitalo et al. (US 6415163) in view of Greenstein et al. (US 6131016).

1. Regarding Claim 1, Keskitalo disclose A Base Transceiver Station (BTS) arranged to communicate with a plurality of mobile terminals within a coverage area including at least one target mobile terminal (abstract), the BTS comprising:

a processing apparatus that operates to receive and process service and data traffic information; (col.9; 23-32) and

a transmission apparatus that operates to receive the processed service and data traffic information, to transmit the processed service information on a first set (first pilot signal) of carriers to the mobile terminals within the coverage area with at least one first transmission beam and to transmit the processed data traffic information on a second set (second pilot signal) of carriers to the target mobile terminal on at least one second transmission beam, the second transmission beam being a directional transmission beam. (col.9; 44-55)

Keskitalo fails to disclose An Orthogonal Frequency Division Multiplexed (OFDM) Base Transceiver Station (BTS). However, Greenstein teaches in an analogous art, that An Orthogonal Frequency Division Multiplexed (OFDM) Base Transceiver Station (BTS) (col.2; 27-40 & col.3; 59-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to include An Orthogonal Frequency Division Multiplexed (OFDM) Base Transceiver Station (BTS) in order to provide transmit diversity with feedback to enhance the reception of communication signals at wireless communication terminal.

2. Regarding Claim 2, Keskitalo and Greenstein disclose the OFDM BTS according to claim 1, in addition, Keskitalo disclose the service information comprises pilot information and signalling information. (col.9; 23-32)

3. Regarding Claim 3, Keskitalo and Greenstein disclose the OFDM BTS according to claim 1, in addition, Keskitalo disclose the data traffic information comprises data traffic pilot information. (col.9; 23-32)

4. Regarding Claim 4, Keskitalo and Greenstein disclose the OFDM BTS according to claim 1, in addition, Keskitalo disclose the first transmission beam is sufficiently broad for each of the mobile terminals within the coverage area to receive the processed service information. (col.10; 1-7)

5. Regarding Claim 5, Keskitalo disclose all the particulars of the claim except the processing apparatus. However, Greenstein teaches in an analogous art, that An OFDM BTS according to claim 4, wherein the transmission apparatus comprises at least one first transmission beam output path, the first transmission beam output path comprising a transmitter coupled to the processing apparatus and an antenna coupled to the transmitter; and wherein the first transmission beam output path receives the processed service information from the processing apparatus and operates to generate the first transmission beam. (col.3; 33-48) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to include An Orthogonal Frequency Division Multiplexed (OFDM) Base Transceiver Station (BTS) in order to provide transmit diversity with feedback to enhance the reception of communication signals at wireless communication terminal.

6. Regarding Claim 6, Keskitalo disclose all the particulars of the claim except the processing apparatus. However, Greenstein teaches in an analogous art, that An OFDM BTS according to claim 5, wherein the transmission apparatus comprises a plurality of first transmission beam output paths, each of the first transmission beam output paths comprising a transmitter coupled to the processing apparatus and a directional antenna coupled to its respective transmitter; and wherein each of the first transmission beam output paths receives the processed service information from the processing apparatus and operates to generate a portion of the first transmission beam, each of the portions of the first transmission beam being focussed on a portion of the coverage area. (col.3; 33-48) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to include An Orthogonal Frequency Division Multiplexed (OFDM) Base Transceiver Station (BTS) in order to provide transmit diversity with feedback to enhance the reception of communication signals at wireless communication terminal.

7. Regarding Claim 7, Keskitalo and Greenstein disclose the OFDM BTS according to claim 5, in addition, Keskitalo disclose the transmission apparatus further comprises a plurality of second transmission beam output paths, each of the second transmission beam output paths comprising a phase adjuster coupled to the processing apparatus and further coupled in series with a transmitter and an antenna; and wherein the second transmission beam output paths each receive the processed data traffic information from the processing apparatus and operate together to generate the directional second transmission beam by selectively adjusting their respective phase adjusters. (col.10; 39-50)

8. Regarding Claim 8, Keskitalo and Greenstein disclose the OFDM BTS according to claim 7, in addition, Keskitalo disclose the first transmission beam output path and one of the second transmission beam output paths share a common transmitter and antenna; and wherein the shared transmitter receives the processed service information from the processing apparatus and receives phase adjusted data traffic information from the output of the phase adjuster within the particular second transmission beam output path. (col.10; 39-50)

9. Regarding Claim 9, Keskitalo and Greenstein disclose the OFDM BTS according to claim 5, in addition, Keskitalo disclose the transmission apparatus further comprises a switch coupled to the processing apparatus and a plurality of second transmission beam output paths coupled to the switch, each of the second transmission beam output paths comprising a transmitter coupled to the switch and a directional antenna coupled to its corresponding transmitter; and wherein the switch receives the processed data traffic information from the processing apparatus and selectively forwards the processed data traffic information to a set of the second transmission beam output paths to generate the directional second transmission beam. (col.18; 39-55)

10. Regarding Claim 10, Keskitalo and Greenstein disclose the OFDM BTS according to claim 9, in addition, Keskitalo disclose the set of the second transmission beam output paths to generate the directional second transmission beam comprises one second transmission beam output path. (col.18; 39-55)

11. Regarding Claim 11, Keskitalo and Greenstein disclose the OFDM BTS according to claim 5, in addition, Keskitalo disclose the transmission apparatus further comprises a second transmission beam transmitter coupled to the processing apparatus, a switch coupled to the second transmission beam transmitter and a plurality of second transmission beam directional antennas coupled to the switch; and wherein the switch receives the processed data traffic information from the second transmission beam transmitter and selectively forwards the processed data traffic information to a set of the second transmission beam directional antennas to generate the directional second transmission beam. (col.18; 39-55)

12. Regarding Claim 12, Keskitalo and Greenstein disclose the OFDM BTS according to claim 11, in addition, Keskitalo disclose the set of the second transmission beam directional antennas to generate the directional second transmission beam comprises one second transmission beam directional antenna. (col.18; 39-55)

13. Regarding Claim 13, Keskitalo and Greenstein disclose the OFDM BTS according to claim 1, in addition, Keskitalo disclose the first transmission beam is a directional transmission beam; and wherein the BTS is operable to modify the direction of focus of the directional first transmission beam in order for each of the mobile terminals within the coverage area to receive the processed service information. (col.9; 44-52)

14. Regarding Claim 14, Keskitalo and Greenstein disclose the OFDM BTS according to claim 13, in addition, Keskitalo disclose the BTS modifies the direction of focus of the directional first

transmission beam such that each of the mobile terminals within the coverage area is focussed by the directional first transmission beam for a corresponding time period in a repetitive fashion. (col.9; 23-32)

15. Regarding Claim 15, Keskitalo and Greenstein disclose the OFDM BTS according to claim 13, in addition, Keskitalo disclose the transmission apparatus comprises a plurality of first transmission beam output paths, each of the first transmission beam output paths comprising a phase adjuster coupled to the processing apparatus and further coupled in series with a transmitter and an antenna; and wherein the first transmission beam output paths each receive the processed service information from the processing apparatus and operate together to generate the directional first transmission beam by selectively adjusting their respective phase adjusters. (col.10; 39-50)

16. Regarding Claim 16, Keskitalo and Greenstein disclose the OFDM BTS according to claim 15, in addition, Keskitalo disclose the transmission apparatus further comprises a plurality of second transmission beam output paths, each of the second transmission beam output paths comprising a phase adjuster coupled to the processing apparatus and further coupled in series with a transmitter and an antenna; and wherein the second transmission beam output paths each receive the processed data traffic information from the processing apparatus and operate together to generate the directional second transmission beam by selectively adjusting their respective phase adjusters. (col.15; 13-25)

17. Regarding Claim 17, Keskitalo and Greenstein disclose the OFDM BTS according to claim 16, in addition, Keskitalo disclose at least one of the first transmission beam output paths and at least one of the second transmission beam output paths share a common transmitter and antenna; and wherein the shared transmitter operates to receive phase adjusted service information from the output of the phase adjuster within the at least one first transmission beam output path and to receive phase adjusted data traffic information from the output of the phase adjuster within the at least one second transmission beam output path. (col.10; 39-50)

18. Regarding Claim 18, Keskitalo and Greenstein disclose the OFDM BTS according to claim 13, in addition, Keskitalo disclose the transmission apparatus comprises a plurality of output paths, each output path comprising a first transmission beam phase adjuster coupled to the processing apparatus, a second transmission beam phase adjuster coupled to the processing apparatus, a transmitter coupled to both its respective first and second phase adjusters and an antenna coupled to its respective transmitter; wherein the output paths each receive the processed service information from the processing apparatus at their respective first transmission beam phase adjusters and the output paths operate together to generate the directional first transmission beam by selectively adjusting their respective first transmission beam phase adjusters; and wherein the output paths each receive the processed data traffic information from the processing apparatus at their respective second transmission beam phase adjusters and the output paths operate together to generate the directional second transmission beam by selectively adjusting their respective second transmission beam phase adjusters. (col.9; 23-32 & 44-55)

19. Regarding Claim 19, Keskitalo and Greenstein disclose the OFDM BTS according to claim 19, in addition, Keskitalo disclose the transmission apparatus comprises a first transmission beam switch coupled to the processing apparatus and a plurality of first transmission beam output paths coupled to the first transmission beam switch, each of the first transmission beam output paths comprising a transmitter coupled to the first transmission beam switch and a directional antenna coupled to its corresponding transmitter; and wherein the first transmission beam switch receives the processed service information from the processing apparatus and selectively forwards the processed service information to a set of the first transmission beam output paths to generate the directional first transmission beam. (col.9; 23-32 & 44-55)

20. Regarding Claim 20, Keskitalo and Greenstein disclose the OFDM BTS according to claim 19, in addition, Keskitalo disclose the transmission apparatus further comprises a second transmission beam switch coupled to the processing apparatus and a plurality of second transmission beam output paths coupled to the second transmission beam switch, each of the second transmission beam output paths comprising a transmitter coupled to the second transmission beam switch and a directional antenna coupled to its corresponding transmitter; and wherein the second transmission beam switch receives the processed data traffic information from the processing apparatus and selectively forwards the processed data traffic information to a set of the second transmission beam output paths to generate the directional second transmission beam. (col.10; 39-50)

21. Regarding Claim 21, Keskitalo and Greenstein disclose the OFDM BTS according to claim 20, in addition, Keskitalo disclose the set of the first transmission beam output paths in which the first transmission beam switch forwards the processed service information comprises one first transmission beam output path and the set of the second transmission beam output paths in which the second transmission beam switch forwards the processed data traffic information comprises one second transmission beam output path. (col.9; 44-55)

22. Regarding Claim 22, Keskitalo and Greenstein disclose the OFDM BTS according to claim 20, in addition, Keskitalo disclose at least one of the first transmission beam output paths and at least one of the second transmission beam output paths share a common transmitter and directional antenna; and wherein the shared transmitter is operable to receive the processed service information from the first transmission beam switch and to receive the processed data traffic information from the second transmission beam switch. (col.10; 39-50)

23. Regarding Claim 23, Keskitalo and Greenstein disclose the OFDM BTS according to claim 13, in addition, Keskitalo disclose the transmission apparatus comprises a first transmission beam switch, a second transmission beam switch and a plurality of output paths, each output path comprising a transmitter coupled to both the first and second transmission beam switches and an antenna coupled to its respective transmitter; and wherein the first transmission beam switch receives the processed service information from the processing apparatus and selectively forwards the processed service information to a set of the output paths to generate the directional first transmission beam and the second transmission beam switch receives the processed data

traffic information from the processing apparatus and selectively forwards the processed data traffic information to a set of the output paths to generate the directional second transmission beam. (col.18; 39-55)

25. Regarding Claim 25, Keskitalo disclose all the particulars of the claim except an inverse fast fourier transform. However, Greenstein teaches in an analogous art, that an inverse fast fourier transform block according to claim 1, wherein the processing apparatus comprises at least one data traffic and service information processor that operates to receive and process data traffic and service information and an inverse fast fourier transform block (IFFT; 202b, 203b; fig.2A) coupled between the data traffic and service information processor and the transmission apparatus. (col.3; 33-48) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to include an inverse fast fourier transform block in order to provide transmit diversity with feedback to enhance the reception of communication signals at wireless communication terminal.

26. Regarding Claim 26, Keskitalo and Greenstein disclose the OFDM BTS according to claim 25, in addition, Keskitalo disclose the at least one data traffic and service information processor comprises a data traffic information processor, a signalling information processor and a pilot information processor; and wherein each of the data traffic, signaling and pilot information processors perform at least one of modulation mapping, interleaving, rate matching, forward error correction encoding on the data traffic, signalling and pilot information respectively. (col.10; 39-50)

27. Regarding Claim 27, Keskitalo and Greenstein disclose the OFDM BTS according to claim 1, in addition, Keskitalo disclose the transmission apparatus operates to transmit the processed service information with a plurality of transmission beams. (col.9; 64-col.10; 7)

28. Regarding Claim 28, Keskitalo and Greenstein disclose the OFDM BTS according to claim 27, in addition, Keskitalo disclose the transmission apparatus operates to transmit the processed service information with at least one signalling information transmission beam and at least one pilot information transmission beam. (col.9; 64-col.10; 7)

29. Regarding Claim 29, Keskitalo and Greenstein disclose the OFDM BTS according to claim 1, in addition, Keskitalo disclose the transmission apparatus operates to transmit the processed data traffic information with a plurality of transmission beams. (col.9; 64-col.10; 7)

32. Regarding Claim 32, Keskitalo disclose Base Transceiver Station (BTS) arranged to communicate with a plurality of mobile terminals within a coverage area (abstract), the BTS comprising:

a processing apparatus that operates to receive and process service and data traffic information; (col.9; 23-32) and

a transmission apparatus that operates to receive the processed service and data traffic information, to transmit the processed service information on a first set of carriers and the

processed data traffic information on a second set of carriers using a directional transmission beam; (col.9; 44-55)

wherein the BTS is operable to modify the direction of focus of the directional transmission beam in order for each of the mobile terminals within the coverage area to receive the processed service information. (col.9; 49-55)

Keskitalo fails to disclose An Orthogonal Frequency Division Multiplexed (OFDM) Base Transceiver Station (BTS). However, Greenstein teaches in an analogous art, that An Orthogonal Frequency Division Multiplexed (OFDM) Base Transceiver Station (BTS) (col.2; 27-40 & col.3; 59-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to include An Orthogonal Frequency Division Multiplexed (OFDM) Base Transceiver Station (BTS) in order to provide transmit diversity with feedback to enhance the reception of communication signals at wireless communication terminal.

33. Regarding Claim 33, Keskitalo and Greenstein disclose the OFDM BTS according to claim 32, in addition, Keskitalo disclose the service information comprises pilot information and signalling information. (col.9; 23-32)

34. Regarding Claim 34, Keskitalo and Greenstein disclose the OFDM BTS according to claim 32, in addition, Keskitalo disclose the BTS modifies the direction of focus of the directional transmission beam such that each of the mobile terminals within the coverage area is focussed by the directional beam for a corresponding time period in a repetitive fashion. (col.6; 43-64)

35. Regarding Claim 35, Keskitalo disclose all the particulars of the claim except the processing apparatus. However, Greenstein teaches in an analogous art, that An OFDM BTS according to claim 32, wherein the transmission apparatus comprises a plurality of output paths, each of the output paths comprising a phase adjuster coupled to the processing apparatus and further coupled in series with a transmitter and an antenna; and wherein the output paths each receive the processed service and data traffic information from the processing apparatus and operate together to generate the directional transmission beam by selectively adjusting their respective phase adjusters. (col.3; 33-48) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to include An Orthogonal Frequency Division Multiplexed (OFDM) Base Transceiver Station (BTS) in order to provide transmit diversity with feedback to enhance the reception of communication signals at wireless communication terminal.

36. A Regarding Claim 36, Keskitalo and Greenstein disclose the OFDM BTS according to claim 32, in addition, Keskitalo disclose the transmission apparatus comprises a switch coupled to the processing apparatus and a plurality of output paths coupled to the switch, each of the output paths comprising a transmitter coupled to the switch and a directional antenna coupled to its corresponding transmitter; and wherein the switch receives the processed service and data traffic information from the processing apparatus and selectively forwards the information to a set of the output paths to generate the directional transmission beam. (col.18; 39-55)

37. Regarding Claim 37, Keskitalo and Greenstein disclose the OFDM BTS according to claim 36, in addition, Keskitalo disclose the set of the output paths in which the switch forwards the information comprises one output path. (col.18; 39-55)

38. Regarding Claim 38, Keskitalo and Greenstein disclose the OFDM BTS according to claim 32, in addition, Keskitalo disclose the transmission apparatus comprises a transmitter coupled to the processing apparatus, a switch coupled to the transmitter and a plurality of directional antennas coupled to the switch; and wherein the switch receives the processed service and data traffic information from the transmitter and selectively forwards the information to a set of the directional antennas to generate the directional transmission beam. (col.18; 39-55)

39. Regarding Claim 39, Keskitalo and Greenstein disclose the OFDM BTS according to claim 38, in addition, Keskitalo disclose the set of the directional antennas in which the switch forwards the information comprises one directional antenna. (col.18; 39-55)

41. Regarding Claim 41, Keskitalo disclose all the particulars of the claim except an inverse fast fourier transform. However, Greenstein teaches in an analogous art, that An OFDM BTS according to claim 32, wherein the processing apparatus comprises at least one data traffic and service information processor that operates to receive and process data traffic and service information and an inverse fast fourier transform (IFFT; 202b, 203b; fig.2A) block coupled between the data traffic and service information processor and the transmission apparatus. (col.3; 33-48) Therefore, it would have been obvious to one of ordinary skill in the art at the time of

invention to include an inverse fast fourier transform block in order to provide transmit diversity with feedback to enhance the reception of communication signals at wireless communication terminal.

42. Regarding Claim 42, Keskitalo and Greenstein disclose the OFDM BTS according to claim 41, in addition, Keskitalo disclose the at least one data traffic and service information processor comprises a data traffic information processor, a signalling information processor and a pilot information processor; and wherein each of the data traffic, signaling and pilot information processors perform at least one of modulation mapping, interleaving, rate matching, forward error correction encoding on the data traffic, signalling and pilot information respectively. (col.10; 39-50)

46. Regarding Claim 46, Keskitalo disclose A radio system comprising A Base Transceiver Station (BTS) and a plurality of mobile terminals within a coverage area of the BTS, at least one of the mobile terminals being a target mobile terminal; (abstract)

wherein the BTS is operable to receive service and data traffic information, to transmit the service information on a first set of carriers to the mobile terminals within the coverage area with a first transmission beam and to transmit the data traffic information on a second set of carriers to the target mobile terminal with a second transmission beam, the second transmission beam being a directional transmission beam. (col.9; 49-55)

Keskitalo fails to disclose An Orthogonal Frequency Division Multiplexed (OFDM) Base Transceiver Station (BTS). However, Greenstein teaches in an analogous art, that An Orthogonal

Frequency Division Multiplexed (OFDM) Base Transceiver Station (BTS) (col.2; 27-40 & col.3; 59-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to include An Orthogonal Frequency Division Multiplexed (OFDM) Base Transceiver Station (BTS) in order to provide transmit diversity with feedback to enhance the reception of communication signals at wireless communication terminal.

Claims 24 & 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keskitalo et al., and Greenstein et al. further in view of Tellado et al.

24. Regarding Claim 25, The above combinations disclose all the particulars of the claim except Peak-Average-Power Ratio (PAPR). However, Tellado teaches in an analogous art, that An OFDM BTS according to claim 1 further comprising at least one Peak-Average-Power Ratio (PAPR) block coupled between the processing apparatus and the transmission apparatus, the PAPR block operating to reduce peak power of the processed service and data traffic information. (col.16; 21-34) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to include Peak-Average-Power Ratio (PAPR) in order to provide methods and systems for reducing the peak to average power ratio of a multi carrier signal.

40. Regarding Claim 40, The above combinations disclose all the particulars of the claim except Peak-Average-Power Ratio (PAPR). However, Tellado teaches in an analogous art, that An OFDM BTS according to claim 32 further comprising at least one Peak-Average-Power Ratio (PAPR) block coupled between the processing apparatus and the transmission apparatus, the

PAPR block operating to reduce peak power of the processed service and data traffic information. (col.16; 21-34) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to include Peak-Average-Power Ratio (PAPR) in order to provide methods and systems for reducing the peak to average power ratio of a multi carrier signal.

Claims 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keskitalo et al., and Greenstein et al. further in view of Rasanen.

30. Regarding Claim 30, The above combinations disclose all the particulars of the claim except at least one audio traffic information. However, Rasanen teaches in an analogous art, that An OFDM BTS according to claim 29, wherein the transmission apparatus operates to transmit the processed data traffic information with at least one audio (82; fig.8) traffic information transmission beam and at least one non-audio traffic information transmission beam. (col.10; 1-27) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to include at least one audio traffic information in order to provide multiservice calls in mobile mobile network.

31. Regarding Claim 31, The above combinations disclose all the particulars of the claim except at least one audio traffic information transmission beam and at least one video traffic information transmission beam. However, Rasanen teaches in an analogous art, that An OFDM BTS according to claim 29, wherein the transmission apparatus operates to transmit the processed data traffic information with at least one audio (82; fig.8) traffic information transmission beam and

at least one video (81; fig.8) traffic information transmission beam. (col.10; 1-27) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to include at least one audio traffic information transmission beam and at least one video traffic information transmission beam in order to provide multiservice calls in mobile mobile network.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharad Rampuria whose telephone number is 703-308-4736. The examiner can normally be reached on Mon-Fri.(9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 703-308-5318. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

Sharad Rampuria
July 12, 2004

WILLIAM TROST
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600